

# isc N-Channel MOSFET Transistor

IRLU8743

## • FEATURES

- With TO-251(IPAK) packaging
- High speed switching
- Easy to use
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## • APPLICATIONS

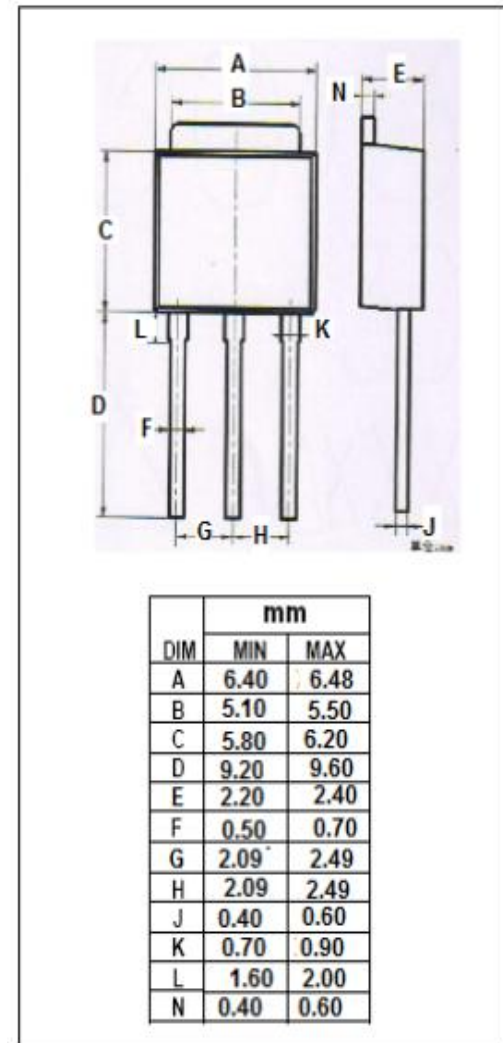
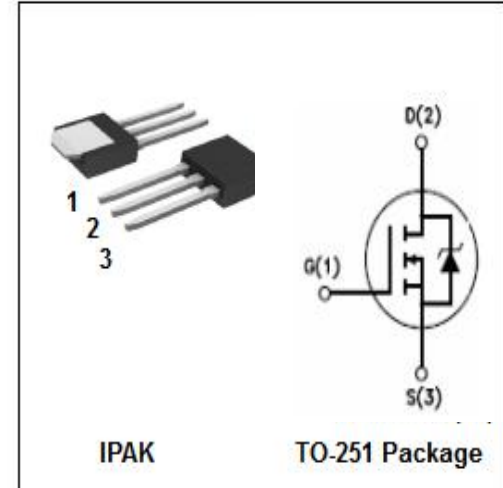
- Power supply
- DC-DC converters
- Motor control
- Switching applications

## • ABSOLUTE MAXIMUM RATINGS( $T_a=25^{\circ}\text{C}$ )

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DS}$	Drain-Source Voltage	30	V
$V_{GS}$	Gate-Source Voltage	$\pm 20$	V
$I_D$	Drain Current-Continuous	160 113	A
$I_{DM}$	Drain Current-Single Pulsed	640	A
$P_D$	Total Dissipation	135	W
$T_j$	Operating Junction Temperature	-55~175	$^{\circ}\text{C}$
$T_{stg}$	Storage Temperature	-55~175	$^{\circ}\text{C}$

## • THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(ch-c)}$	Channel-to-case thermal resistance	1.11	$^{\circ}\text{C/W}$
$R_{th(ch-a)}$	Channel-to-ambient thermal resistance	50	$^{\circ}\text{C/W}$



**isc N-Channel MOSFET Transistor****IRLU8743****ELECTRICAL CHARACTERISTICS** $T_c=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$BV_{DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V; I_D=0.25mA$	30			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}; I_D=0.1mA$	1.35		2.35	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=5V; I_D=25A$		2.4	3.1	$m\Omega$
$I_{GSS}$	Gate-Source Leakage Current	$V_{GS}=\pm 20V; V_{DS}=0V$			$\pm 0.1$	$\mu A$
$I_{DSS}$	Drain-Source Leakage Current	$V_{DS}=24V; V_{GS}=0V; T_j=25^{\circ}\text{C}$ $V_{DS}=24V; V_{GS}=0V; T_j=125^{\circ}\text{C}$			1 150	$\mu A$
$V_{SDF}$	Diode forward voltage	$I_{SD}=20A, V_{GS}=0V$			1.0	V

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